

What is Claimed is:

1. A gas turbine co-generation system having a gas turbine comprising;
a compression unit;
a turbine; and
a power generation unit driven by a rotation output of said turbine, exhaust air of said turbine being introduced in a chamber, the exhaust air from said chamber being passed in a sound absorbing material which is formed into a honeycomb structure, and thereafter said exhaust air being emitted to the atmosphere.
2. A gas turbine co-generation system according to claim 1, wherein the sound absorbing material is a humidity adsorbing rotor having a humidity adsorbent on the honeycomb structure.
3. A gas turbine co-generation system according to claim 2, in which adsorption and desorption of humidity are performed simultaneously while the humidity adsorbing rotor is rotating.
4. A gas turbine co-generation system according to claim 1, wherein the exhaust gas of the gas turbine passes in a space between a honeycomb-shaped heat exchanger rotor and a humidity adsorbing rotor.
5. An internal combustion engine co-generation system comprising:
an internal combustion engine;

a dynamo connected with said internal combustion engine;

a casing surrounding said internal combustion engine and the dynamo;

a blower for causing an air flow in the casing to cool the internal combustion engine and the dynamo; and

a dehumidifying unit which dries air by a humidity adsorbent and in which moisture in said humidity adsorbent is desorbed by a hot air produced by mixing, said cooling air being heated by passing through said casing and an exhaust gas of said internal combustion engine.

6. An internal combustion engine co-generation system comprising:
 - an internal combustion engine;
 - a dynamo connected with said internal combustion engine;
 - a casing surrounding said internal combustion engine and the dynamo;
 - a blower for causing an air flow in the casing to cool the internal combustion engine and the dynamo; and
 - a dehumidifying unit which dries air by a humidity adsorbent and in which moisture in said humidity adsorbent is desorbed by a hot air, the air being heated by heat exchange with an exhaust gas of said internal combustion engine and the cooling air heated by passing in said casing being mixed and being used for hot air for the desorption of said dehumidifying unit.

7. An internal combustion engine co-generation system according to claim 5, in which the dehumidifying part has a honeycomb rotor carrying a humidity adsorbent.

8. An internal combustion engine co-generation system according to claim 5, in which the dry air supplied from the dehumidification part is cooled and supplied to a room.

9. A dehumidifying and air-conditioning apparatus comprising:
a dehumidifier rotor by which adsorbed humidity is desorbed by a heated air; and
a heat exchange element providing heat exchange between two flow passages, the heated air dried by said dehumidifier rotor being supplied to a room through one passage of said heat exchange element, air from inside of the room being passed in another passage of said heat exchange element, and water being supplied in the another passage of said heat exchange element.

10. A dehumidifying and air-conditioning apparatus according to claim 9, in which said heat exchange element is a stationary sensible heat exchange element.

11. A dehumidifying and air-conditioning apparatus according to claim 9, in which the hot air from a source of exhaust heat is applied to a part of said dehumidifier rotor.

12. A dehumidifying and air-conditioning apparatus according to claim 9, in which the air coming from one passage of the heat exchange element is humidified.

13. A dehumidifying and air-conditioning apparatus according to claim 12, in which the air coming out from the another passage of said heat exchange element is humidified by a

water-spraying nozzle which forces micro-particles of water to flow with the air in the another passage of said heat exchange element.

14. A dehumidifying and air-conditioning apparatus comprising:
a dehumidifier rotor by which adsorbed humidity is desorbed by a heated air; and
a heat exchange element providing heat exchange between two flow passages, the heated air dried by said dehumidifier rotor being supplied to a room through one passage of said heat exchange element, air from inside of the room being passed in another passage of said heat exchange element, and water being supplied in the another passage of said heat exchange element, drops of said water being added in outer air and said outer air being passed in a part of the other passage of said heat exchange element.

15. A dehumidifying and air-conditioning apparatus according to claim 14 in which the dehumidifier rotor is used as the sound absorbing honeycomb material.

16. An internal combustion engine co-generation system according to claim 5, in which:
a dehumidifying and air-conditioning apparatus is used, said apparatus comprising a dehumidifier rotor capable of desorbing the adsorbed humidity by a heated air, and a heat exchanger element which provides heat exchange between two passages, one passage of said heat exchanger passing the air dried by said dehumidifying part to supply said air to a room, the air from the room passing through another passage of said heat exchanger, and water is supplied to the other passage of said heat exchanger element, and

the dehumidifier rotor is used in the dehumidifying part.

17. An internal combustion engine co-generation system according to claim 6, in which the dehumidifying part has a honeycomb rotor carrying a humidity adsorbent.

18. An internal combustion engine co-generation system according to claim 6, in which the dry air supplied from the dehumidification part is cooled and supplied to a room.

19. A dehumidifying and air-conditioning apparatus according to claim 13, wherein the passages of the heat exchange element are isolated such that the dry air in the one passage is prevented from adsorbing moisture from the humidified air in the another passage.

20. A co-generation system comprising;
a turbine; and
a power generation unit driven by a rotation output of said turbine, exhaust air of said turbine being passed to a sound absorbing honeycomb structure, and thereafter said exhaust air being emitted to the atmosphere.

21. A co-generation system comprising:
an internal combustion engine;
a dynamo connected with said internal combustion engine;
a casing surrounding said internal combustion engine and the dynamo;
a blower producing a cooling air flow in the casing; and

a dehumidifying unit in which moisture from humidified air is transferred to hot air produced by mixing said cooling air being heated by passing through said casing and an exhaust gas of said internal combustion engine.

22. An internal combustion engine co-generation system comprising:
an internal combustion engine;
a dynamo connected with said internal combustion engine;
a casing surrounding said internal combustion engine and the dynamo;
a blower producing a cooling air flow in the casing; and
a dehumidifying unit in which moisture from humidified air is transferred to hot air, the hot air being produced by heat exchange with the cooling air being heated by passing through said casing and an exhaust gas of said internal combustion engine.

23. A dehumidifying and air-conditioning apparatus comprising:
a dehumidifier rotor in which moisture from humidified air is captured by hot air; and
a heat exchange element providing heat exchange between at least two flow passages, the air dried by said dehumidifier rotor being supplied to a room through one passage of said heat exchange element, water is passed in another passage of said heat exchange element, wherein the passages of the heat exchange element are isolated such that the dry air in the one passage is prevented from adsorbing moisture from the humidified air in the another passage.

24. A dehumidifying and air-conditioning apparatus comprising:
a dehumidifier rotor in which moisture from humidified air is captured by hot air;

a heat exchange element providing heat exchange between at least two flow passages, the air dried by said dehumidifier rotor being supplied to a room through one passage of said heat exchange element, air from inside of the room, which is humidified, is passed in another passage of said heat exchange element; and

a hot air outlet passes hot air to the dehumidifier rotor, the outlet producing high frequency noise.